LAB 4

NAME: Sreenidhi Ganachari

REGNO:19BCE7230

LAB: CSE4002 Mobile Application Development LAB

Design a calculator to perform addition, subtraction, multiplication and division. Also a 'C' button to clear the Value in the Textbox and '=' button to display the result.

MainActivity.Java

```
package com.example.calculator;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
import android.view.View; import android.widget.Button; import
android.widget.TextView;

public class MainActivity extends AppCompatActivity

{
    int res = 0;
    int temp = 0;
    String t,r,op;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
        TextView tl = findViewById(R.id.edittext);
        Button bc = findViewById(R.id.bc);
```

```
Button be = findViewById(R.id.be);
 Button b0 = findViewById(R.id.b0);
 Button b1 = findViewById(R.id.b1);
Button b2 = findViewById(R.id.b2);
Button b3 = findViewById(R.id.b3);
Button b4 = findViewById(R.id.b4);
Button b5 = findViewById(R.id.b5);
Button b6 = findViewById(R.id.b6);
Button b7 = findViewById(R.id.b7);
Button b8 = findViewById(R.id.b8);
Button b9 = findViewById(R.id.b9);
Button ba = findViewById(R.id.ba);
Button bs = findViewById(R.id.bs);
Button bm = findViewById(R.id.bm);
Button bd = findViewById(R.id.bd);
  b0.setOnClickListener(new View.OnClickListener() { @Override
  public void onClick(View v) {
      t = t1.getText().toString(); r = t + "0";
     t1.setText(r);
  }
  });
  b1.setOnClickListener(new View.OnClickListener() {
  public void onClick(View v) {
```

```
t = t1.getText().toString(); r = t + "1";
   t1.setText(r);
}
});
b2.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "2";
   t1.setText(r);
}
});
b3.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "3";
   t1.setText(r);
}
});
b4.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "4";
   t1.setText(r);
}
});
```

```
b5.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "5";
   t1.setText(r);
}
});
b6.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "6";
   t1.setText(r);
}
});
b7.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
   t = t1.getText().toString(); r = t + "7";
   t1.setText(r);
}
});
b8.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "8";
    t1.setText(r);
```

```
}
});
b9.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
    t = t1.getText().toString(); r = t + "9";
   t1.setText(r);
}
});
ba.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) { op = "+";
   temp = Integer.parseInt(t1.getText().toString()); t1.setText("");
}
});
bs.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) { op = "-";
   temp = Integer.parseInt(t1.getText().toString()); t1.setText("");
}
});
bd.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) { op = "/";
    temp = Integer.parseInt(t1.getText().toString()); t1.setText("");
```

```
});
      bm.setOnClickListener(new View.OnClickListener() {
      public void onClick(View v) { op = "*";
          temp = Integer.parseInt(t1.getText().toString()); t1.setText("");
      }
      });
      bc.setOnClickListener(new View.OnClickListener() {
      public void onClick(View v) { temp = 0; t1.setText("");
      }
      });
      be.setOnClickListener(new View.OnClickListener() {
      public void onClick(View v) { if (op.equals("+")) {
          res = temp + Integer.parseInt(t1.getText().toString());
t1.setText(String.valueOf(res));
      }
      else if (op.equals("-")) {
          res = temp - Integer.parseInt(t1.getText().toString());
          t1.setText(String.valueOf(res));
      }
      else if (op.equals("/")) {
          res = temp / Integer.parseInt(t1.getText().toString());
t1.setText(String.valueOf(res));
```

}

```
else if (op.equals("*")) {
    res = temp * Integer.parseInt(t1.getText().toString());
t1.setText(String.valueOf(res));
}
}
}
}
```

XML Code

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout width="match parent"
   android:layout height="match parent"
   tools:context=".MainActivity">
   <TextView
      android:id="@+id/edittext"
      android:layout width="347dp"
      android:layout height="0dp"
      android:layout marginTop="93dp"
      android:layout marginBottom="51dp"
      android:textAlignment="viewEnd"
      android:textSize="30sp"
      app:layout constraintBottom toTopOf="@+id/ba"
      app:layout constraintEnd toEndOf="parent"
      app:layout constraintHorizontal bias="0.421"
      app:layout constraintStart toStartOf="parent"
      app:layout constraintTop toTopOf="parent" />
   <Button
      android:id="@+id/b1"
      android:layout width="wrap content"
      android:layout height="wrap content"
```

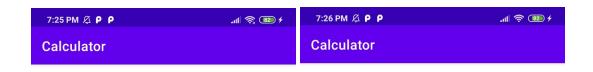
```
android:layout marginStart="1dp"
   android:layout marginEnd="2dp"
   android:text="1"
   app:layout constraintBaseline toBaselineOf="@+id/b2"
   app:layout constraintEnd toStartOf="@+id/b2"
   app:layout constraintStart toStartOf="parent" />
<Button
   android:id="@+id/b2"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="2"
   app:layout constraintEnd toStartOf="@+id/b3"
   app:layout constraintStart toEndOf="@+id/b1"
   app:layout constraintTop toTopOf="@+id/b3" />
<Button
   android:id="@+id/b3"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="3"
   app:layout constraintBaseline toBaselineOf="@+id/ba"
   app:layout constraintEnd toStartOf="@+id/ba"
   app:layout constraintStart toEndOf="@+id/b2" />
<Button
   android:id="@+id/ba"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginBottom="15dp"
   android:text="+"
   app:layout constraintBottom toTopOf="@+id/bs"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintStart toEndOf="@+id/b3"
   app:layout constraintTop toBottomOf="@+id/edittext" />
<Button
   android:id="@+id/b4"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="4"
   app:layout constraintBaseline toBaselineOf="@+id/b5"
   app:layout constraintEnd toStartOf="@+id/b5"
   app:layout constraintStart toStartOf="parent" />
```

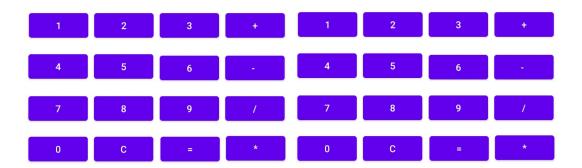
```
android:id="@+id/b5"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:layout marginBottom="2dp"
   android:text="5"
   app:layout constraintBottom toBottomOf="@+id/b6"
   app:layout constraintEnd toStartOf="@+id/b6"
   app:layout constraintStart toEndOf="@+id/b4" />
<Button
   android:id="@+id/b6"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="6"
   app:layout constraintBaseline toBaselineOf="@+id/bs"
   app:layout constraintEnd toStartOf="@+id/bs"
   app:layout constraintStart toEndOf="@+id/b5" />
<Button
   android:id="@+id/bs"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginBottom="12dp"
   android:text="- "
   app:layout constraintBottom toTopOf="@+id/bd"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintStart toEndOf="@+id/b6"
   app:layout constraintTop toBottomOf="@+id/ba" />
<But.ton
   android:id="@+id/b7"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="7"
   app:layout constraintBaseline toBaselineOf="@+id/b8"
   app:layout constraintEnd toStartOf="@+id/b8"
   app:layout constraintStart toStartOf="parent" />
<Button
   android:id="@+id/b8"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="8"
   app:layout constraintEnd toStartOf="@+id/b9"
   app:layout constraintStart toEndOf="@+id/b7"
```

```
app:layout constraintTop toTopOf="@+id/b9" />
<Button
   android:id="@+id/b9"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="3dp"
   android:text="9"
   app:layout constraintBaseline toBaselineOf="@+id/bd"
   app:layout constraintEnd toStartOf="@+id/bd"
   app:layout constraintStart toEndOf="@+id/b8" />
<Button
   android:id="@+id/bd"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginBottom="11dp"
   android:text="/"
   app:layout constraintBottom toTopOf="@+id/bm"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintStart toEndOf="@+id/b9"
   app:layout constraintTop toBottomOf="@+id/bs" />
<Button
   android:id="@+id/b0"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginStart="1dp"
   android:layout marginTop="12dp"
   android:layout marginEnd="4dp"
   android:text="0"
   app:layout constraintEnd toStartOf="@+id/bc"
   app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toBottomOf="@+id/b7" />
<Button
   android:id="@+id/bc"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginEnd="5dp"
   android:text="C"
   app:layout constraintBaseline toBaselineOf="@+id/b0"
    app:layout constraintEnd toStartOf="@+id/be"
   app:layout constraintStart toEndOf="@+id/b0" />
<Button
   android:id="@+id/be"
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginTop="1dp"
```

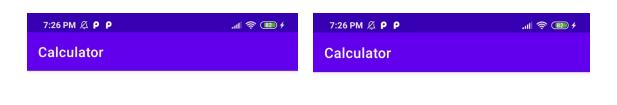
```
android:layout marginEnd="4dp"
       android:text="="
       app:layout_constraintEnd_toStartOf="@+id/bm"
       app:layout constraintStart toEndOf="@+id/bc"
       app:layout_constraintTop_toTopOf="@+id/bm" />
   <Button
       android:id="@+id/bm"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:layout marginBottom="273dp"
       android:text="*"
       app:layout constraintBottom toBottomOf="parent"
       app:layout constraintEnd toEndOf="parent"
       app:layout constraintStart toEndOf="@+id/be"
       app:layout_constraintTop_toBottomOf="@+id/bd" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT









5 13

